Scanning Multichannel Microwave Radiometer (SMMR) By Prabhakara Langley DAAC Data Set Document

Summary:

The Prabhakara SMMR Atmospheric Liquid Water files were generated by Dr. Prabhakara Cuddapah at the Goddard Space Flight Center (GSFC) using SMMR Antenna Temperatures. A discussion of the SMMR Antenna Temperatures is available from the Langley Distributed Active Archive Center (DAAC).

This document supports two data sets by Prabhakara and they are:

- SMMR_ALW_PRABHAKARA
- SMMR_IWV_PRABHAKARA

Table of Contents:

1. Data Set Overview:

Data Set Identification:

SMMR_ALW_PRABHAKARA:	Scanning Multichannel Microwave Radiometer (SMMR) Monthly Mean Atmospheric Liquid Water (ALW) By Prabhakara (SMMR_ALW_PRABHAKARA)
SMMR_IWV_PRABHAKARA:	Scanning Multichannel Microwave Radiometer (SMMR) Monthly Mean Integrated WaterVapor (IWV) By Prabhakara (SMMR_IWV_PRABHAKARA)

Data Set Introduction:

SMMR_ALW_PRABHAKARA:
Each Atmospheric Liquid Water (ALW) file contains one month of 3 degree by 5 degree gridded mean liquid water. Each element of data is in units of mg/cm2. The data spans the period from February 1979 to May 1984.

SMMR_IWV_PRABHAKARA:
Each Integrated Water Vapor (IWV) file contains one month of 3 degree by 5 degree gridded mean water vapor. A scale factor of 0.1 must be applied to convert the data into units of g/cm2. The data spans the period from October 1979 to September 1983.

Objective/Purpose:

Summary of Parameters:

Liquid Water Content
Water Vapor

Discussion:

Related Data Sets:

2. Investigator(s):

Investigator(s) Name and Title:

CUDDAPAH PRABHAKARA

Title of Investigation:

Contact Information:

Investigator Information:
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3. Theory of Measurements:

4. Equipment:

Sensor/Instrument Description:

Collection Environment:

Source/Platform:

NIMBUS-7

Source/Platform Mission Objectives:

Key Variables:

Principles of Operation:

Sensor/Instrument Measurement Geometry:

Manufacturer of Sensor/Instrument:

Sensor/Instrument:

SMMR

Calibration:

Specifications:

Tolerance:

Frequency of Calibration:

Other Calibration Information:

5. Data Acquisition Methods:

6. Observations:

Data Notes:

Field Notes:

7. Data Description:

Spatial Characteristics:

Spatial Coverage:

Data Set	Min Lat	Max Lat	Min Lon	Max Lon
SMMR_ALW_PRABHAKARA	-48.00	48.00	-180.00	180.00
SMMR_IWV_PRABHAKARA	-75.00	75.00	-180.00	180.00

Spatial Coverage Map:

Maps are not available for these data sets.

Spatial Resolution:

Projection:

Grid Description:

Temporal Characteristics:

Temporal Coverage:

Data Set	Begin Date	End Date
SMMR_ALW_PRABHAKARA	02-01-1979	05-31-1984
SMMR_IWV_PRABHAKARA	10-01-1979	09-30-1983

Temporal Coverage Map:

Maps are not available for these data sets.

Temporal Resolution:

Data Characteristics:

Parameter/Variable:

Variable Description/Definition:

Unit of Measurement:

Data Source:

Data Range:

Sample Data Record:

8. Data Organization:

Data Granularity:

A general description of data granularity as it applies to the IMS appears in the EOSDIS Glossary.

Each data granule consists of one year of data.

Data Format:

The data are in native binary format.

9. Data Manipulations:

Formulae:

Derivation Techniques and Algorithms:

Data Processing Sequence:

Processing Steps:

Processing Changes:

Calculations:

Special Corrections/Adjustments:

Calculated Variables:

Graphs and Plots:

Images are not available for these data sets.

10. Errors:

Sources of Error:

Quality Assessment:

Data Validation by Source:

Confidence Level/Accuracy Judgement:

Measurement Error for Parameters:

Additional Quality Assessments:

Data Verification by Data Center:

11. Notes:

Limitations of the Data:

Known Problems with the Data:

Usage Guidance:

Any Other Relevant Information about the Study:

12. Application of the Data Set:

13. Future Modifications and Plans:

There are no plans for future modifications of these data sets.

14. Software:

Software Description:

Sample read software is not available for these data sets.

Software Access:

If you have any questions, please contact the Langley DAAC. Contact information is provided in this document.

15. Data Access:

Contact Information:

Langley DAAC User and Data Services Office
NASA Langley Research Center
Mail Stop 157D
Hampton, Virginia 23681-2199
USA
Telephone: (757) 864-8656
FAX: (757) 864-8807
E-mail: support-asdc@earthdata.nasa.gov

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Procedures for Obtaining Data:

The Langley DAAC Information Management System (IMS) is an on-line system that features a graphical user interface (GUI) that allows to query the Langley DAAC dataset holdings, to view pre-generated browse products, and to order specific data products.

The Langley DAAC User and Data Services staff provides technical and operational support for users ordering data.

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E-mail: support-asdc@earthdata.nasa.gov
URL: http://eosweb.larc.nasa.gov

Data Center Status/Plans:

The Langley DAAC will continue to archive this data. There are no plans to reprocess.

16. Output Products and Availability:

There are no output products for these data sets.

17. References:

Prabhakara, C., H. D. Chang, and T. C. Chang, 1982: Remote Sensing of Precipitable Water over the Oceans from Nimbus 7 Microwave Measurements. *J. Appl. Meteor.*, Vol. 21, No. 1, 59-68.

Prabhakara, C., G. Dalu, J. J. Nucciarone, and G. L. Liberti, 1992: Rainfall over Oceans: Remote Sensing from Satellite Microwave Radiometers. *Meteorol, Atmos. Phys.*, 47, 177-199.

18. Glossary of Terms:

EOSDIS Glossary.

19. List of Acronyms:

EOSDIS Acronyms.

NASA - National Aeronautics Space Administration
URL - Uniform Resource Locator

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